

Reteaching 4-2 Exponents

Evaluate $(-x)^2$, $-x^2$, and $2(x - 4)^2 + 1$ when $x = 9$.

Substitute 9 for x in $(-x)^2$.

$$(-9)^2 = (-9)(-9) = 81$$

Substitute 9 for x in $-x^2$.

$$-9^2 = -(9 \cdot 9) = -81$$

Substitute 9 for x in $2(x - 4)^2 + 1$.

$$2(x - 4)^2 + 1 = 2(9 - 4)^2 + 1 \quad \text{Substitute 9 for } x.$$

$$= 2(5)^2 + 1$$

$$= 2(25) + 1$$

$$= 50 + 1$$

$$= 51$$

Work within parentheses first.

Simplify $(5)^2$.

Multiply.

Add.

Evaluate each expression.

1. $(-a)^2$, for $a = 10$ $(- \underline{\hspace{2cm}})^2 = \underline{\hspace{2cm}}$

2. $-a^2$, for $a = 10$ $- \underline{\hspace{2cm}}^2 = \underline{\hspace{2cm}}$

3. a^2 , for $a = -10$ $(\underline{\hspace{2cm}})^2 = \underline{\hspace{2cm}}$

4. $-a^2$, for $a = -10$ $-(\underline{\hspace{2cm}})^2 = \underline{\hspace{2cm}}$

5. $-3m^2$, for $m = 5$ $-3(\underline{\hspace{2cm}})^2 = -3(\underline{\hspace{2cm}}) = \underline{\hspace{2cm}}$

6. $2n^2 - 4$, for $n = 3$ $2(\underline{\hspace{2cm}})^2 - 4 = 2(\underline{\hspace{2cm}}) - 4$
 $= (\underline{\hspace{2cm}}) - 4 = \underline{\hspace{2cm}}$

7. $5(2h - 4)^2$, for $h = 4$ $5(2 \cdot \underline{\hspace{2cm}} - 4)^2 = 5(\underline{\hspace{2cm}} - 4)^2$
 $= 5(\underline{\hspace{2cm}})^2 = 5(\underline{\hspace{2cm}}) = \underline{\hspace{2cm}}$

8. xy^2 , for $x = 7, y = 2$ $(\underline{\hspace{2cm}})(\underline{\hspace{2cm}})^2 = (\underline{\hspace{2cm}})(\underline{\hspace{2cm}})$
 $= \underline{\hspace{2cm}}$